

Australian/New Zealand Standard™

**Information technology—Computer
graphics and image processing—
Presentation environment for
multimedia objects**

Part 3: Multimedia systems services

[ISO/IEC title: Information technology—Computer graphics and image processing—Presentation Environment for Multimedia Objects (PREMO), Part 3: Multimedia Systems Services]



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Australian/New Zealand Standard™

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Part 3: Multimedia systems services

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/1, Information Systems—Interconnection. This Standard is identical with and has been reproduced from ISO/IEC 14478-3:1998, *Information technology—Computer graphics and image processing—Presentation Environment for Multimedia Objects (PREMO)*, Part 3: *Multimedia Systems Services*.

The objective of this Standard is to provide designers of multimedia systems a set of system software components which marshal lower-level system resources to the task of supporting multimedia processing so providing a set of common services which can be used by multimedia application developers.

This Standard is Part 3 of AS/NZS 14478, *Information technology—Computer graphics and image processing—Presentation environment for multimedia objects*, which is published in parts as follows:

Part 1: Fundamentals of presentation environment for multimedia objects

Part 2: Foundation component

Part 3: Multimedia systems services (this Standard)

Part 4: Modelling, rendering and interaction component

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		4473.1	Part 1: Requirements and guidelines
11172	Information technology—Coding of Moving Pictures and Associated Audio for Digital Storage Media at up to about 1.5Mbit/s (MPEG)	—	
14478	Information technology—Computer graphics and image processing—Presentation Environment for Multimedia Objects (PREMO)	14478	Information technology—Computer graphics and image processing—Presentation environment for multimedia objects
14478-1	Part 1: Fundamentals of PREMO	14478.1	Part 1: Fundamentals of presentation environment for multimedia objects
14478-2	Part 2: Foundation Component	14478.2	Part 2: Foundation component
14478-4	Part 4: Modelling, Rendering, and Interaction Component	14478.4	Part 4: Modelling, rendering and interaction component

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NOTES

Information technology—Computer graphics and image processing—Presentation environment for multimedia objects

Part 3: Multimedia systems services

1 Scope

This part of ISO/IEC 14478 defines a standard set of multimedia system services that can be used by multimedia application developers in a variety of computing environments. The focus is on enabling multimedia applications in a heterogeneous, distributed computing environment. Throughout this part of ISO/IEC 14478, this component will also be referred to as “Multimedia Systems Services”, and abbreviated as MSS.

The Multimedia Systems Services constitutes a framework of “middleware” — system software components lying in the region between the generic operating system and specific applications. As middleware, the Multimedia Systems Services marshals low-level system resources to the task of supporting multimedia processing, providing a set of common services which can be used by multimedia application developers.

The Multimedia Systems Services encompasses the following characteristics:

- a) provision of an abstract type for a media processing node, extensible through subtyping to support abstractions of real media processing hardware or software;
- b) provision of an abstract type for the data flow path or the connection between media processing nodes, encapsulating low-level connection and transport semantics;
- c) grouping of multiple processing nodes and connections into a single unit for purposes of resource reservation and stream control;
- d) provision of a media dataflow abstraction, with support for a variety of position, time and/or synchronization capabilities;
- e) separation of the media format abstractions from the dataflow abstraction;
- f) synchronous exceptions and asynchronous events;
- g) application visible characterization of object capabilities;
- h) registration of objects in a distributed environment by location and capabilities;
- i) retrieval of objects in a distributed environment by location and constraints;
- j) definition of a Media Stream Protocol to support media independent transport and synchronization.

The Multimedia Systems Services rely on the object model of ISO/IEC 14478-1 (Fundamentals of PREMO) and the object types and non-object data types defined in ISO/IEC 14478-2 (PREMO Foundation Component).